ICM450 Series
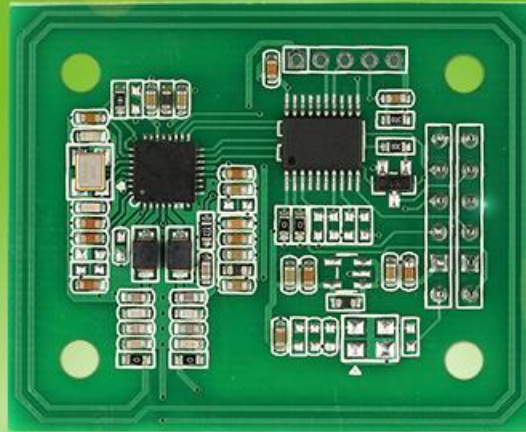## IC Module

ZKRADIO

Overview

ICM450 series module is a 13.56MHz high-frequency multi-protocol read-write card module. It adopts a dedicated contactless communication chip, with stable performance and powerful functions.Fully supports various protocols of 13.56MHz: ISO/IEC14443A, ISO/IEC14443B, ISO/IEC15693. This series of modules provides a variety of interface options and adopts an integrated antenna design, which integrates small size, ease of use and reliability. Powerful card reading function, stable card reading performance. Can be customized according to customer requirements, widely used in access control system, school management, community management, membership management, asset management, anti-counterfeiting control and other fields.

Models

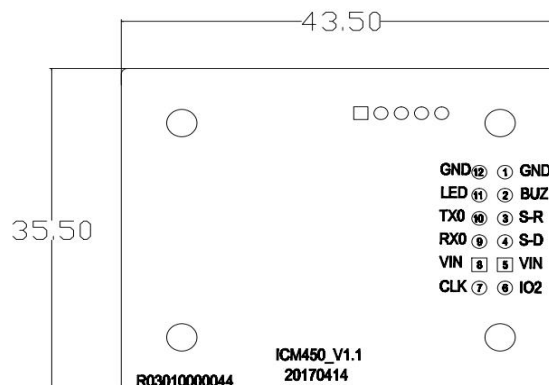| Series	Models	Interface	Voltage	Cards type
ICM450A	ICM450A - T(M150)	TTL	5V	Get UID of card under protocol ISO/IEC14443A, read/write S50/S70/FM11RF08
	ICM450A - W(M151)	WG34		
	ICM450A - W(M218)	WG26		
ICM450AL	ICM450AL - T(M153)	TTL	3.3V	
ICM450A+	ICM450A+- T(M155)	TTL	5V	Get UID of card under protocol ISO/IEC14443A, read/write S50/S70/ULT/NTAG/FM11RF08/FM1208，ISO/IEC14443A APDU command
ICM450A+L	ICM450A+L - T(M157)	TTL	3.3V	
ICM450B	ICM450B - T(M163)	TTL	5V	Get UID of card under protocol ISO14443A/B，read/write MS50/S70/ULT/NTAG/FM11RF08
ICM450BL	ICM450BL - T(M165)	TTL	3.3V	
ICM450C	ICM450C - T(M167)	TTL	5V	Read only protocol ISO/IEC15693，read/write ICODE

Features

◇ Antenna integrated, easy to install；

◇ Adopt non-contact communication chip, stable performance and good compatibility；

◇ Support ISO/IEC14443A, ISO/IEC14443B, ISO/IEC15693 protocol, can connect to software demonstration;

◇ Various communication interfaces are available: TTL, IIC, Wiegand 34, Wiegand 26;

◇ Provide demo software and secondary development kit.

Specifications

Params	Description
Protocol	ISO/IEC14443A,ISO/IEC14443B,ISO/IEC15693
Card type	Mifare one S50，Mifare one S70，Mifare ultralight，FM11RF08，FM1208（Fudan CPU card），UID of Chinese 2nd-generation ID card，ICODE，NTAG213，NTAG215，NTAG216
Frequency	13.56MHz
Baud rate	9600 - 115200bit/s(optional，default 115200bit/s)
Power	DC5V，3.3V（±5%）
Working current	<100mA
Communication Interface	TTL，IIC，Wiegand26，Wiegand34
Module embedding	2.54mm pitch pins
Operating distance	0~50mm（Depends on work environments and card types）
Operating temperature	-10℃~+70℃
storage temperature	-20℃~+80℃
Working humidity	15%~90%
size	43.50mm×35.50mm×11.9mm (tolerance：±3mm)

Size

Pin definition

Pin No.	Name	Description
1	GND	GROUND
2	BUZ	BUZZER
3	S-R	SAM RESET
4	S-D	SAM DATA
5	VIN	POWER
6	IO2	RESET
7	CLK	SAM CLOCK
8	VIN	POWER
9	RX0	UART serial port receiver/I2C interface SDA/Wiegand interface DATA1
10	TX0	UART serial port transmit/I2C interface SCL/Wiegand interface DATA0
11	LED	LED
12	GND	GROUND

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